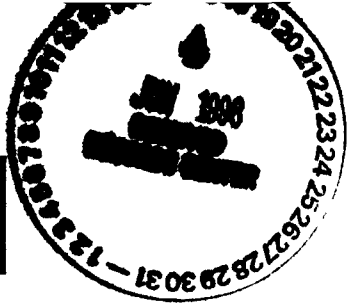

KAISER • HILL
COMPANY

INTEROFFICE MEMORANDUM

DATE March 19, 1997

TO K A Dorr, K-H, ERWM&I Operations,T130F, X6034

FROM S M Nesta, C&PA, National Environmental Policy Act, T130C, X6386 SMNesta

SUBJECT. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION FOR DECOMMISSIONING OF BUILDINGS 980, 968 AND 965 - SMN-060-97

I have received an environmental checklist submitted by Mark Hickman of RMRS for decommissioning of Buildings 980, 968 and 965 Under the terms of the Rocky Flats Cleanup Agreement, decommissioning is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) activity CERCLA activities are not subject to a separate NEPA review, rather, they are to incorporate NEPA values in the relevant decision document. The relevant decision document for building decommissioning is the *Decommissioning Program Plan* (DPP) The DPP, now in draft stage, is expected to be distributed for review by the public and regulatory agencies later this spring and be final in late summer or early fall. If the DPP were final, decommissioning of the three buildings would receive NEPA coverage from the NEPA values material that is part of that document

We understand, however, that decommissioning of the three buildings is planned to proceed before the DPP is expected to be final. Our recommendation, therefore, is that NEPA compliance for this project can be best accomplished by incorporating the NEPA values material from the DPP by reference in the Proposed Action Memorandum To that end, we suggest that section 4.0, Environmental Impacts, of the PAM be changed to read as follows:

4.0 National Environmental Policy Act Compliance

Compliance with the National Environmental Policy Act (NEPA) for CERCLA activities such a decommissioning of buildings is achieved by including consideration of NEPA values in the CERCLA decision document for the activity This PAM is the CERCLA decision document for decommissioning of Building 980, 968, and 965 The appropriate NEPA values for decommissioning of Buildings 980, 968, and 965 are the same as those appropriate to decommissioning of other buildings at the Site. These are described and considered in the draft *Decommissioning Program Plan*, an early draft of which is currently in review by RFFO This PAM includes by reference the NEPA values section (currently section 6.3) of the *Decommissioning Program Plan* The expected environmental effects of decommissioning Buildings 908, 968, and 965 are encompassed within the environmental effects described in that document

I attach a copy of the most recent version of the NEPA values narrative we prepared for the DPP It has been updated from the material in the January 14 version of the DPP. You may wish to consider appending this narrative to the PAM, though we suggest taking advantage of the increased flexibility allowed by simply incorporating it by reference, since it may be revised again prior to the DPP becoming final

Please do not hesitate to contact me at X6386, or Bill Moore of Labat Anderson/ NEPA at X8132 if you have any questions or need more information.

Attachment: As Stated

cc
K North, K-H
K M Lavorato, K-H
M. E. Hickman, RMRS

6 3 National Environmental Policy Act

A mandate to incorporate NEPA values into RFETS decision documents is codified in the Rocky Flats Cleanup Agreement (RFCA) (RFCA, ¶ 95) In addition, this Decommissioning Program Plan (DPP) is defined as a decision document under RFCA (RFCA, ¶ 93 and 119) In recognition of this requirement, this section provides
a description of potential environmental impacts which may be associated with associated with decommissioning buildings, facilities, and equipment at RFETS

Much of the environmental impact information is derived from the Rocky Flats Draft Site-Wide Environmental Impact Statement (SWEIS) currently under preparation (Preliminary Draft, dated July 15, 1996) Alternatives analyzed in that document involves a wide spectrum of site cleanup activities, one alternative examines decommissioning of all buildings and structures at the Site (as discussed in the DPP), as well as consolidation of special nuclear material, thermal stabilization of plutonium oxide, and offsite shipment of pits and highly enriched uranium. Because environmental impacts for that alternative result from many activities in addition to decommissioning, some of the impacts described below may be larger than would be predicted for decommissioning alone

Alternatives considered in developing the DPP are discussed in Section 6 2 Each of the alternatives involves decommissioning of all former nuclear production buildings and a number of other Site buildings, structures, and equipment Although demolition activities are part of all alternatives, the number of buildings that will be partially or totally demolished, and the quantity of waste that would be removed from individual building sites rather than buried or capped in place, would vary among the alternatives The following description of the environmental effects of decommissioning is considered to be characteristic of the decommissioning program, regardless of the alternative selected

Geology and Soils
Decommissioning all buildings at the Site will disturb approximately 600 acres of land, most of which has been previously disturbed Activities such as excavation could cause localized landslides or slumping to occur Some recontouring of the soils will occur after buildings are removed There will be short-term increases in soil erosion and siltation and small, temporary losses of soil productivity

Air Quality
The Site is located within the boundary of the Denver Metropolitan Area for air quality planning purposes, the region is classified as "non-attainment" for carbon monoxide and PM-10 The Denver area is considered transitional (previously non-attainment and in the process of demonstrating attainment) for ozone and in attainment for other criteria pollutants

Decommissioning activities will result in increased emissions of chemicals (chiefly volatile organic compounds), radionuclides, and particulates, and may require modifications to the Site operating air emission permit to account for new or additional temporary emissions As buildings with permitted emissions are decommissioned, these emission points will be removed from the Site's permit Potential human health impacts associated with increased emissions of these pollutants are addressed in the Human Health Effects section, below

Demolition of buildings is expected to result in a moderate increase in emissions of fugitive dust, dust suppression and/or containment practices will be instituted to ensure that emissions will remain below applicable air quality standards

Water Quality
In general, removal of buildings and their drainage systems will require modifications to the Site's National Pollution Discharge Elimination System permit Removal of building drainage systems, some of which have sump pumps that send water to the A-, B-, or C-series ponds, will result in a small decrease in the amount of surface water leaving the Site Removal of buildings and installation of final covers or caps will result in a net decrease in stormwater runoff from the Site and a corresponding increase in the amount of precipitation that percolates into the soil This is not expected to affect groundwater because most of the area's limited average annual precipitation either evaporates in the dry climate or is taken up by vegetation

An estimated 18 million gallons of water per year is believed to leak from the Site's water distribution system, with the water accruing primarily to Walnut Creek Removal of the water distribution system will reduce this volume In addition, the Site's sewage treatment plant currently empties over 54 million gallons of treated wastewater per year to South Walnut Creek Closure of this facility will result in flows to the creek being reduced by that amount The combined losses of these water flows to Walnut Creek will alter the character of that drainage and reduce the quantity of aquatic and riparian habitat

Decommissioning activities are not expected to directly affect surface water because most buildings are not located near drainage ways or stream courses, stormwater runoff controls (similar to those used in conventional construction projects) may be required in some cases Groundwater would be encountered if basements, drains, or sump pumps are removed from buildings However, the buildings will have been decontaminated prior to removal of these structures or equipment, and thus no groundwater contamination would occur Any disruption of groundwater flows due to removal of the structures or equipment will be small and temporary

Human Health Impacts
Decommissioning has the potential to expose involved workers, non-involved workers, and the public to radiological and other contamination because the nature of the work is to remove or fix-in-place contamination Disruption of contaminants or hazardous materials increases the chance of the contaminant or materials being dislodged, becoming airborne, and being inhaled by or deposited on humans

For radiation workers, deactivation and decommissioning activities during the time of peak exposure (1997 - 2006) are estimated to result in an annual dose of 96 person-rem, or a total of 96 rem for all radiation workers at the Site This exposure would be expected to result in less than 1 (0 04) latent cancer fatalities among all workers

The annual radiological exposure of a maximally exposed co-located (unprotected) worker as a result of decommissioning and other related activities is estimated at 5 3 millirem (a millirem is 1/1000 of a rem) The corresponding risk of a latent cancer fatality to this worker is two in 1,000,000

The annual dose to the public as a result of all activities at the peak time of exposure (1997 -

2006) is expected to be 23 person-rem, or a total of 23 rem for all of the 2 7 million people projected to be living within 50 miles of the Site in 2006 This annual dose of 23 person-rem would be expected to result in less than one (0 01) latent cancer fatality in the entire Denver area population

For comparison purposes, DOE's annual limit for occupational exposure as a result of all activities and through all exposure pathways is 5,000 millirem (5 rem) per person. The Site standard for annual exposure is 750 millirem per person. Natural background radiation in the Denver area results in an annual exposure to approximately 350 millirem per person.

Exposures to radiation workers and the public will be controlled and monitored in accordance with the RFETS radiation safety program (Section 2)

Non-radiological health effects (from exposure to chemicals) is measured by a hazard index A hazard index greater than one is considered to be a basis for concern, and the greater the index is above one, the greater the level of concern For decommissioning and other related activities, data collected for the SWEIS show a hazard index of 1 4 for a member of the public who is chronically exposed every day for 70 years to all chemicals of concern simultaneously (a highly unlikely event) A more reasonable scenario of exposure to a single chemical showed hazard indices of well below one for all chemicals

Excessive exposure to chemicals can result in both short-term effects (e g , difficulty breathing or other temporary conditions) and long-term effects (such as cancer) Data collected for the SWEIS indicates that a member of the public exposed to all chemicals of concern simultaneously every day for 70 years would have a risk of developing cancer of 2 in 10,000,000

In addition to exposure to radiological and chemical hazards, workers at the Site are exposed to a variety of industrial hazards such as heavy machinery, repetitive motion tasks, and physical agents such as heat and cold Using a general industry rate for construction to estimate injury and illness cases, activities related to deactivation, decontamination, and decommissioning are expected to result in 584 cases of injury and illness during the peak activity period (1997 - 2006) .The general industry rate of injury and illness is considerably higher than the historic incidence rate for the Site

Waste Management

In excess of 225,000 cubic meters of waste is expected to be generated by decommissioning activities Of this, approximately 177,000 cubic meters will be uncontaminated The remainder will be hazardous waste (2,000 cubic meters), low-level radioactive waste (30,500 cubic meters), low-level mixed radioactive waste (17,000 cubic meters), and transuranic or transuranic mixed waste (1,200 cubic meters)

Construction of new temporary waste storage facilities for transuranic waste and transuranic mixed waste may be required Other waste types will be stored in existing buildings prior to offsite shipment for disposal

With respect to disposal, uncontaminated sanitary waste will be disposed on onsite or entombed in buildings Hazardous waste will be shipped to a commercial facility for disposal Low-level radioactive waste will be entombed in buildings or shipped to the Nevada Test Site Low-level

mixed waste will be sent to Envirocare, a commercial facility in Utah Transuranic waste and transuranic mixed waste will be shipped to the Waste Isolation Pilot Plant in New Mexico Management and disposal of these types of wastes at these locations was analyzed in DOE's Waste Management Programmatic Environmental Impact Statement, or will be analyzed in future NEPA analyses conducted prior to shipment decisions

Plants and Animals
Decommissioning activities will occur primarily in the Industrial Area at the Site, which contains little vegetation, thus, vegetation is not expected to be affected Former building sites will be revegetated with native grasses until future uses of the Site are decided

Mammals such as rats, mice, and raccoons are known to be residents of or visitors to the Industrial Area These mammals would be displaced, and some mortality would occur as a result of decommissioning activities Bird nests attached to buildings planned for demolition would be destroyed, although no direct bird mortality is anticipated

RFETS contains potential habitat for several threatened or endangered species of plants and animals bald eagle, Peregrine falcon, black-footed ferret, and Ute Ladies -Tresses There are also several candidate species that occur at the Site, including swift fox, mountain plover, Colorado butterfly plant, and Preble's Meadow jumping mouse The Site also contains potential habitat for seven U S Forest Service sensitive species and five Colorado species of concern

Decommissioning activities would disturb up to 244 acres of species habitat A large portion of the areas that would be disturbed are already developed and would be reclaimed Disturbance to these habitats are expected to be short-term. Removal of the rail spur serving the Site would destroy a portion of a small colony of Forktip Three-Awn, a plant species that is a Colorado species of concern, but which is not listed as threatened or endangered

Historic Resources
Sixty-four buildings in the Site's Industrial Area have been identified as eligible for the National Register of Historic Places because of their importance to the historic role of the Site in manufacturing nuclear weapons components during the Cold War A list of these 64 buildings is contained in Appendix 2 Negotiations are underway between DOE and the State Historic Preservation Officer (SHPO) concerning the appropriate mitigative measures applicable to these buildings, it is expected that most of the buildings will be subject only to documentation requirements (collection or creation of construction drawings and photographs), rather than preservation No modification of or damage to these buildings will occur prior to completion of such an agreement and completion of documentation according to standards accepted by the SHPO

Visual Effects
Decommissioning will result in the removal of some or all buildings from the Site, eliminating the structures that have dominated the Site and the local skyline for 45 years High profile structures such as the water tower, numerous two- and three-story structures, and many single story buildings will be eliminated, resulting in the Site having a less industrial, more open and rural appearance similar to the rangeland that characterized the Site before the plant was constructed One of the most noticeable changes will be the eventual elimination of night lighting in the Industrial Area This lighting is at least as visible at night as Site structures are during the day

Most structures (except the east and west gates and Buildings 60 and 61) are at least one mile from a public road or private property, lessening the publicly perceived visual impact of decommissioning activities

Noise
Decommissioning will involve common industrial activities (e g , wiping, disassembly, sawing, and crushing) with a variety of associated noise levels Many of these activities will take place inside buildings so noise, if elevated over ambient levels, will be confined to and/or muffled by the structure in which it is generated

Other, less common techniques (Section 7) such as scabbling, blasting, and demolition by pneumatic hammer, wrecking ball, or other devices are expected to generate higher than ambient noise levels Workers involved in those activities will use appropriate hearing protection devices Outdoor activities will take place sufficiently distant from non-involved workers and the public such that unprotected noise levels will remain safe

Socioeconomic Impacts
Decommissioning activities will provide employment for an unspecified number of people for at least a decade Many of the workers are expected to come from the current Site workforce Although some workers will be new to the Site, infrastructure such as roads and schools are not expected to be affected by in-migration of workers

Decommissioning activities will decline gradually over the coming years As with other activities at the Site, the labor and non-labor budget (purchases of goods and services) for decommissioning will decline between 1997 and 2015 as actions are completed In total, the amount of money brought into the regional economy by the activities of contractors at RFETS is projected to decline by over 50% by 2006 and by over 95% by 2015

Ultimately, closure of the Site at the conclusion of decommissioning and related activities will result in the disappearance of almost all of the employment base that now exists at the Site More than 5,000 people, paid directly or indirectly by DOE, work at the Site, by the time Site closure is completed, that number will approach zero The anticipated loss of jobs represents 1 2% of the Denver metropolitan area employment base The economic impacts of this loss in payroll are estimated at over $652 million in the Denver metropolitan area In addition to this decline in payroll, direct and indirect purchased in the Denver metropolitan area by DOE and Site contractors would shrink from a 1994 level of $1 293 billion to an estimated $6 271 million

Declining expenditures at RFETS and associated socioeconomic impacts (e g , unemployment) are the result of DOE's decision to close the Site, not decommissioning itself The decline in RFETS expenditures will be gradual, allowing other employers in the region to make up the losses Because of the extended period over which the decline is expected to occur, effects to the regional economy are expected to be small if the economy remains robust as it has in recent years If economic indicators in the region decline during the period, declining expenditures at the Site will contribute to that condition

Cumulative Effects
Decommissioning activities are expected to return the Site to the condition existing before the

plant was constructed Elimination of the Site's water distribution system and sewage treatment system will reduce flows to Walnut Creek, reducing existing levels of aquatic and riparian habitat but restoring that habitat to natural levels Similarly, removing buildings and paved surfaces and returning the Site to its natural state will increase habitat for plants and animals, including threatened and endangered species

Mitigation Measures
Decommissioning will be conducted in accordance to applicable worker and public health and safety programs (Section 2 1), activities will be managed so that emissions and discharges are within applicable regulatory limits (Section 2 2) As required, decommissioning will take place within containment of existing buildings or temporarily constructed facilities (e g , tents) with functioning drainage, air filtration, and other safety and environmental protection systems commensurate with and risks inherent in the activities being conducted
Detailed runoff management plans for decommissioning of structures located near drainage ways will be developed and implemented to avoid contamination of groundwater or surface water

If, during demolition activities, groundwater is encountered, the water will be characterized for contaminants and a determination of its acceptability for discharge obtained If the water requires treatment, it will be sent to Building 374, 910, 995, 861, or another water treatment facility as appropriate If the water does not need treatment, if will be discharged in accordance with the Site's National Pollution Discharge Elimination System permit and/or RFCA

Precautions will be taken to ensure compliance with the Migratory Bird Act which prohibits destruction of birds or their nests, active or inactive, without a permit Building surveys for such nests will be conducted prior to demolition

No decommissioning activities will take place in or near habitat of known threatened or endangered species

No modification of or damage to buildings determined to be eligible for the National Register of Historic Places will occur prior to completion of a Memorandum of Agreement with the SHPO and completion of documentation according to standards set forth in such agreement

Unavoidable Adverse Effects
Decommissioning activities will have the following unavoidable adverse effects

- Short-term increases in soil erosion and siltation and small, temporary losses of soil productivity due to remediation,
- Short-term increases in air emissions and water discharges, necessitating modifications to Site permits,
- Radiation and chemical exposures to workers, co-located workers, and the public, resulting in an increased risk of adverse health effects,
- Industrial accidents, resulting in injury and/or illness,
- Reduction in aquatic and riparian habitat resulting from reduced flows to Walnut Creek,
- Short-term disturbance of plant and animal species habitat, including potential habitat of threatened and endangered species, and species of concern, and
- Increased noise levels for the duration of decommissioning activities

Short-Term Uses and Long-Term Productivity
Unlike most projects which commit a Site to a particular use for a period of time, the effect of decommissioning will be to undo past commitments concerning use of the Site and open up a new and broad range of potential future uses Decommissioning does not commit the Site to a particular land use Rather, it is an essential component of ending one use and opening consideration for a variety of other possible future short- and long-term uses

Irreversible and Irretrievable Commitments of Resources
Decommissioning is essentially a destruction project eliminating existing uses, not a construction project consuming land and building materials Some land and materials may be used temporarily if additional waste storage facilities are needed or if some areas are capped The extent to which capping or on-Site storage or disposal are used depends upon the specific decommissioning alternative and future use option(s) selected In general, decommissioning will release land and perhaps some buildings for other uses Funds, labor, equipment, fuel, tools, personal protective equipment, waste storage drums, and similar items are the resources that will be irretrievably committed to decommissioning activities

Future Uses
Decommissioning will, at its conclusion, have the effect of making possible new uses of the Site by removing most or all existing structures The extent of decommissioning activities will depend upon future use(s) of the Site Current expectations are that portions of the Site (the Buffer Zone) will be kept as open space, while other sites in the Industrial Area will be redeveloped for industrial uses Decisions on future uses of the Site are being made independent of this DPP

Making the Site available for other uses brings with it the possibility of creating new jobs at the Site Any new jobs would be a function of the uses to which the Site is put and the extent to which private industrial and commercial activity is able to replace DOE activity

With respect to availability of housing, federally-owned facilities identified as unutilized, under-utilized, excess, or surplus are subject to Title V of the McKinney Act (42 USC 11411) and its implementing regulations (24 CFR 581) These requirements mandate that the U S Department of Housing and Urban Development (HUD) be informed of the status of such facilities so that the agency may determine their suitability to assist homeless persons However, under the regulations,

> "A property located in an area to which the general public is denied access in the interest of national security (e g , where a special pass or security clearance is a condition of entry to the property) will be determined unsuitable Where alternative access can be provided for the public without compromising national security, the property will not be determined unsuitable on this basis " 24 CFR § 581 6(a)(1)

This would appear to eliminate the entire Site from consideration as a source of housing at this time, but only HUD can make that determination. Buildings to be deactivated and decommissioned will be declared "under-utilized" by DOE in reports to HUD for that agency's consideration